應用製備型層析管柱分離純化茶葉中兒茶素類

鄭正宏

行政院農業委員會茶業改良場

摘　要：茶湯以100℃之沸水沖泡五分鐘後，取其濾液5ml將其通過Lichrolut RP-18 (500mg)之固相萃取管，以試管收取其濾液A，再以2ml MeCN/pure water之溶液5/95清洗後收集濾液B，再以2ml MeCN/pure water之溶液15/85之溶液清洗後收集濾液C，再以2ml MeCN/pure water之溶液30/70之溶液清洗後收集濾液D，再以2 ml MeCN/pure water之溶液100/0之溶液清洗後收集濾液E，結果 A中僅檢測出極性小的元素及少量咖啡因，EGC兒茶素於B及C濾液中檢出，D及E中則無，+C兒茶素在B及C中檢出，其量極微且其附近雜質多較不易分離。EC兒茶素在C及D中檢出，B中微量，A及E中則無，EGCG在C及D中檢出，其量極大且其PEAK附近幾無其他雜質，因而在純化過程中較為容易析出。ECG在C及D中檢出，D中之量為C中之10倍，其量極大且其PEAK附近幾無其他雜質，因而在純化過程中較為容易析出。E之濾液幾無EGC、+C、EC、EGCG、ECG等兒茶素類及CAFFEINE。

Using Preparative Column for HPLC to Separate and Purify the Catechins in Tea

Cheng Cheng-Hung

Taiwan Tea Experiment Station, COA

Abstract: Tea liquor was using 100℃ of boiled water to extract, then took out 5 ml of filtrated liquor, let them go through the column of Lichrolut RP-18(500mg) made by MERCK CO., which column was for solid phase extraction. Collected the filtrate with a test tube as solution A for HPLC catechins's test. Use another 2 ml of MeCN/pure water solution of 5/95 percent with respectively to go through the column for solid phase extraction again. Collected the filtrate with another test tube as for solution B. Then use another 2 ml of MeCN/pure water solution of 15/85 percent with respectively to go through the column again. Collected the filtrate with another test tube as for solution C. After that use another 2 ml of MeCN/pure water solution of 30/70 percent with respectively to go through the column again. Collected the filtrate with another test tube as for solution D. Finally use extra 2 ml of MeCN/pure water solution of 0/100 percent with respectively to go through the column for the last solid phase extraction . Collected the filtrate with another test tube as for solution E. The tested results by using the HPLC for analysis, the solution A could only be detected the low polarity elements and a very few amount of Caffeine, The catechin of EGC was detected in solution B and C, but couldn't find in solution D and E. The catechin of +C was detected in solution B and C in very less amount, where peaks in the time table around showed more complicate elements as respective. It's means that the catechin of +C is hard to separate. The catechin of EC was detected in solution C and D, also very few in solution B and couldn't find any in solution A and E. The catechin of EGCG was detected in solution C and D with very large quantity, where peaks in the time table showed almost no other elements in the around. It's means that the purify procedure for the catechin of EGCG is more easy than the others as respective. The catechin of ECG was detected in solution C and D, also with large quantity. The quantity in D was about the 10 times of that in C. The amount of ECG was huge, where peaks in the time table showed almost no other elements in the around. It's means that the purify procedure for the catechin of ECG is more easy than the others as respective. The filtrate of solution E couldn't find any of the catechins content and caffeine as respective.